

LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

Amendments to the Claims: Please cancel non-elected claims 8-20, 28-50, 52-68 and 70-72 without prejudice. Please cancel claims 7, 21, 24, 51 and 69 without prejudice. Please amend claims 1, 3, 22 and 25-27 as indicated below.

1. (Currently amended) A method of making a mammalian nuclear transfer embryo that is comprised of cells that are incapable of differentiating into a particular cell lineage, comprising:

(a) isolating a differentiated mammalian cell to be used as a nuclear transfer donor, wherein said cell is a fibroblast;

(b) genetically engineering said cell to be incapable of differentiating into a particular cell lineage, wherein said differentiated mammalian cell is genetically engineered by knocking out a gene required for differentiation into said particular lineage;

(c) effecting nuclear transfer of said differentiated, genetically engineered cell, nucleus or chromosomal DNA thereof, into a suitable recipient cell, wherein said recipient cell is an oocyte and wherein said recipient cell is from the same species as said differentiated mammalian cell or wherein said differentiated mammalian cell is human and said recipient cell is rabbit or bovine;

thereby forming a nuclear transfer embryo comprised of cells that are incapable of differentiating into a particular cell lineage.

2. (Original) The method of claim 1, wherein said nuclear transfer embryo is permitted to develop into a blastocyst or morula.

3. (Currently amended) The method of claim 2, further comprising the step of : allowing ~~wherein~~ said blastocyst, or said morula, or cells derived from said blastocyst or said morula, ~~therefrom are permitted to~~ differentiate.

4. (Original) The method of claim 1, wherein said differentiated mammalian cell is a human cell.

5. (Original) The method of claim 1, wherein said particular cell lineage into which said nuclear transfer embryo is incapable of differentiating is selected from the group consisting of endoderm, mesoderm and ectoderm lineages.

6. (Original) The method of claim 5, wherein said particular lineage is more specifically selected from the group consisting of cardiomyocytes, hematopoietic stem cells, endothelial cells, pancreatic islet cells, neurons, fibroblasts and keratinocytes, and chondrocytes.

7-21. (Canceled).

22. (Currently amended) The method of claim ~~1~~ 2, wherein the cells derived from said blastocyst or morula are inner cell mass cells.

23. (Original) The cell lineage deficient nuclear transfer embryo made by the method of claim 1.

24. (Canceled).

25. (Currently amended) The method of claim 1 ~~7~~, wherein said particular lineage is the endoderm lineage, and said knockout affects a gene selected from the group consisting of GATA-4 and GATA-6.

26. (Currently amended) The method of claim 1 7, wherein said particular lineage is the mesoderm lineage, and said knockout affects a gene selected from the group consisting of SRF, MESP-1, HNF-4, beta-1 integrin and MSD.

27. (Currently amended) The method of claim 1 7, wherein said particular lineage is the ectoderm lineage, and said knockout affects a gene selected from the group consisting of RNA helicase A and H beta 58.

28-72. (Canceled).